



ASIA TURBOMACHINERY & PUMP SYMPOSIUM  
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# Couplings and Rotating Machines

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# Presenter bios

- Steven Pennington is the Global Engineering Coupling Manager at John Crane, he manages a team of design engineers in Manchester controlling product standards and research and development.
- Products are verified using FEA and the technology lab containing static and dynamic test rigs able to recreate steady and cyclic conditions.
- Mr. Pennington has over 30 years of engineering experience in power transmission and rotating equipment.
- Mr. Pennington has a Mechanical Engineering degree from Manchester University, he is a Chartered Mechanical Engineer of the Institution of Mechanical Engineers (IMechE)



# Abstract

This course covers the design and application of high performance couplings and rotating machines. Initially the Turbomachinery driver and driven machines are analysed together with their characteristics and how they affect the coupling. The various types of coupling in the market are covered next, including metal membranes and diaphragms and how these characteristics are utilised. Selection is reviewed next and how this affects the coupling design, including shaft end, balancing and materials. The oil and gas requirement to API671 are investigated and which coupling attributes are important. The course concludes with Installation and failure analysis and reviews the main factors affecting failures from misalignment through to torsional vibrations.

